

# 14th Annual Thermal & Fluids Analysis Workshop



August 18-22, 2003  
Hampton, Virginia, USA



## Heat Transfer and CFD: *"Bridging the Gap for the Next Generation"*

5 day workshop with hands on software training, paper sessions, and short courses  
co-sponsored by NASA Langley Research Center and Old Dominion University

### Paper Session Topics

#### Thermal Session

- Thermal control, design, analysis, and testing
- Aircraft / spacecraft systems and payloads
- Manufacturing processes and simulation

#### Interdisciplinary Session

- Multi-disciplinary analyses: thermal/structural, thermal/CFD, aeroheating/thermal, and fluid/structure interactions
- Integrated analyses of chemical reactions, electromagnetic interactions, & micromechanics
- Automation of test correlation and analysis; method development

#### Aero/Thermal/CFD Session

- High-speed aerodynamic heating on vehicles
- Ablation / transpiration
- CFD analyses, methods, and test correlations
- Conjugate heat transfer
- Subsonic, supersonic, hypersonic applications

#### Propulsion Session

- CFD developments and applications for propulsion; propulsion analysis tools
- Modeling or testing of propulsion elements, components, or systems
- Design and development of: air breathing propulsion; solid, hybrid, and liquid systems and their components; and nuclear or other novel propulsion concepts
- Vehicle-propulsion integration



### Featured Software Vendors

- Amtec Engineering:Tecplot
- Blue Ridge Numerics: CFDesign
- C&R Technologies: Thermal Desktop
- CD adapco Group: STAR-CD
- Fluent Inc.: Fluent and GAMBIT
- Harvard Thermal:TAS PCB
- Maya:TMG and ESC
- MSC Software: Patran Thermal
- NASA Langley: Miniver and VULCAN
- Network Analysis Inc.: Thermica and FEMAP
- PTC: Pro/Mechanica Thermal
- Space Design:TSS and FEM
- US Air Force: S/HABP
- Wolfram Research Inc.: Mathematica

### Featured Short Courses

- Thermal Vacuum / Cycle Testing
- Hands on Thermal Control Hardware
- CFD / Thermal Integration

### Important Dates in 2003

**Abstracts due:** May 2

**Acceptance notices sent:** May 16

**Papers due (electronic format):** July 21

#### Conference Chair

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#### Paper Session Chairs

**Thermal**  
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